

VII. WHAT IS CLAIMED IS:

Claim 1. A rotating cutter assembly comprising:

A housing,

means for attaching said housing to an external drive source; and

means for transferring rotational movement from said external drive having an output shaft to a cutting wheel.

Claim 2. An assembly according to claim 1 wherein said means for attaching said housing comprise a drive gear having means for engaging said output shaft of said power tool.

Claim 3. An assembly according to claim 2 wherein said means for transferring rotational movement results in said cutting wheel turning in the same plane as said drive source.

Claim 4. An assembly according to claim 2 wherein said means for transferring rotational movement results in said cutting wheel turning in a different plane of rotation from said drive source.

Claim 5. An assembly according to claim 3 wherein said power source is hand-held.

Claim 6. An assembly according to claim 3 wherein said power source is connected to a new or existing lathe.

Claim 7. A housing according to claim 1 said power source is selected from electrical, hydraulic, and pneumatic power sources.

Claim 8. An assembly according to claim 7 wherein said power source is connected to a new or existing lathe having means for moving said power source in both the X and Y axes.

Claim 9. An assembly according to claim 4 wherein said assembly includes a main housing and means for attaching a commercially available grinder to said housing.

Claim 10. An assembly according to claim 9 wherein said main housing includes at least one threaded opening which receive fasteners to attach a portion of a commercially grinder.

Claim 11. An assembly according to claim 10 wherein said main housing includes a drive gear made of material selected from metal, heavy durable plastic, or other suitable material mounted within said main housing.

Claim 12. An assembly according to claim 11 including wherein said drive gear has means for engaging a drive shaft from said commercially grinder.

Claim 13. An assembly according to claim 12 including wherein said drive gear drives a driven gear made of a material selected from metal, heavy durable plastic, or other suitable material.

Claim 14. An assembly according to claim 13 including wherein said drive gear drives said driven gear by means of toothed drive belt.

Claim 15. An assembly according to claim 14 wherein said driven gear drives a cutter shaft made of a material selected from metal, heavy durable plastic, or other suitable material.

Claim 16. An assembly according to claim 15 wherein said cutter shaft Shaft and said driven gear have matching left-hand threads, which tend to tighten said driven gear onto said cutter shaft during operation of said cutter shaft.

Claim 17. An assembly according to claim 15 wherein said cutter shaft drives a cutter wheel which contains sharpened teeth for machining.

Claim 18. An assembly according to claim 17 wherein said cutter has a rake angle of of about 2° to 5°.

Claim 19. An assembly according to claim 15 including means to alter the cutting depth of said cutter wheel.

Claim 20. An assembly according to claim 19 wherein said means to alter the cutting depth of said cutter wheel comprises a spacer made of a material selected from nylon, teflon, or other smooth material.

Claim 21. An assembly according to claim 19 wherein with spacer in place, the cut is more shallow than when said spacer is not in place.

Claim 22. An assembly according to claim 15 wherein said angle grinder includes a bevel gear, and a bevel gear shaft and said bevel gear provides means to transfer the rotation of said grinder 90 degrees.

Claim 23. An assembly according to claim 22 wherein said assembly is secured to said angle grinder by means of a brace and mechanical fasteners.

Claim 24. An assembly for driving a rotating cutter comprising:  
a housing containing a drive shaft extending from a power source having a drive shaft gear;

first means for transferring rotational torque to a secondary drive shaft laterally spaced from said drive shaft but extending generally parallel to said drive shaft;

second means for transferring rotational torque 90 degrees to a third drive shaft extending generally perpendicular to said secondary drive shaft which in turn drives a rotating cutter.

Claim 25. An assembly according to claim 24 wherein said rotational torque is transferred to said secondary drive shaft with a toothed drive belt assembly.

Claim 26. An assembly according to claim 24 wherein said rotational torque is transferred to said third shaft with a system of bevel gears.

Claim 27. An assembly according to claim 24 wherein said cutter is spaced from said power source.

Claim 28. An assembly according to claim 25 wherein said cutter is located in the same plane as said power source.

Claim 29. An assembly according to claim 24 wherein said power source is selected from electrical, hydraulic, or pneumatic power.

Claim 30. An assembly according to claim 24 wherein said rotational torque is transferred to said third drive shaft with a toothed drive belt assembly.

Claim 31. An assembly according to claim 24 wherein said rotational torque is transferred to said secondary shaft with a system of bevel gears.

Claim 32. An assembly according to claim 30 wherein said rotational torque is transferred to said secondary shaft with a system of bevel gears.

Claim 33. An assembly for driving a rotating cutter comprising:  
a housing containing a drive shaft extending from a power source having a drive shaft gear;

first means for transferring rotational torque to a secondary drive shaft laterally spaced from said drive shaft but extending generally perpendicular to said drive shaft; and

said secondary drive shaft which in turn driving a rotating cutter.

Claim 34. An assembly according to claim 33 wherein said rotational torque is transferred to said secondary shaft with a system of bevel gears.